

## SPAM (Water supply infrastructure) Umbulan: KSB Reliable and cost-efficient pump and valve solution



### Customer:



PT. META ADHYA TIRTA UMBULAN

A joint venture, business entity that carries out the project and a company created by a consortium comprising of PT Medco Gas Indonesia, private gas firm and PT Bangun Cipta Kontraktor, private construction firm. As the winner of Umbulan project bidding, Meta Adhya Tirta Umbulan obtain concession rights for 25 years over including the right to design, construct, operate and maintain the facilities and transmission network.

### Location:

East Java, Indonesia

### Year:

2020

East Java provincial government has initiated a water supply infrastructure from Umbulan spring in response to limited supply of clean water provided by existing water supply system in the main regions of East Java to include Surabaya, Sidoarjo, Gresik, Pasuruan and Pasuruan city. Started in 2017, SPAM (Water supply infrastructure/Water development system/water supply system) is built to provide more clean water for 1.3 million people.

KSB has been trusted to provide water supply system for market leading quality and comprehensive solution. Not only pumps, KSB gate valve, butterfly valve and check valve had also been applied, to make it a comprehensive solution offered by KSB. RDLO, single-stage KSB pump, axially split volute casing pump for horizontal or vertical installation with pump efficiency (minimum 85%), and electric motor efficiency (minimum 95%). Also, energy footprint reduction opportunities lower than project requirement.

Reliable operation with low life cycle costs and low maintenance cost as one shaft module bearings, shaft seals, sleeves and shaft are identical (interchangeable). All components were designed and optimised with latest FEM tools (Finite Element Method), for hydraulics with extensive CFD-simulations (Computational Fluid Dynamics).

## Scope of supply:

## Technical data:

### Pumps:

- 9x RDLO 350-575B SC1 G O
- 4x OMEGA 350-435 A SC G F (Capacity: 250 l/s, head: 12 m, motor power: 45kW/400V, VSD control panel 45kW)
- 4x ETN 125-100-250 (Capacity: 30 l/s, Head: 15m, motor power: 7,5 kW)
- 2x unit MOVITEC VSF 025/03 (Capacity: 5,5 l/s, head: 55 m)

### Valve:

- 18 Butterfly Valve, Isoria 10, 10 bar, DN 450-900
- 3 Butterfly Valve, Mammouth 10, 10 bar, DN 1500
- 14 Axial Disc Nozzle Check Valve, NINSE, 10 bar, DN 450&600
- 114 Combination Air Valve, 10 bar, DN 100, Body: Ductile Iron, Ball: SS 304, FF
- 199 Gate Valve, Ecoline GTR 16p, 10 bar, DN 100- 1000, Body: Ductile Iron, FF, Handwheel
- 12 Gate Valve, Ecoline GTC, class 100-150, DN 1700- 1900, Body: A 216 WCB, Trim 8, FF, GearBox
- 16 Dual Plate Check Valve, NIESE, 10 bar, DN 250- 1100, Body: Ductile Iron, Disc: SS 316, FF

### RDLO:

- Flow Rate: 564 l/s = 2030,4 m3/h
- Head: 87 m
- Speed: 1493 Rpm
- Pump efficiency: 87,3%
- Power absorb: 548,82 kW
- Motor power: 630 kW (380V/50Hz/4Poles)

Should you require further information, please feel free to contact us:

Firmansyah, E-mail: Firmansyah.Firmansyah@ksb.com

Muasis Satrania, E-mail: Muasis.Satrania@ksb.com

Heri Sudewo, E-mail: Heri.Sudewo@ksb.com

## Best quality of KSB products portfolio in accordance with required standard of National Strategic Projects

“SPAM (Water supply infrastructure/Water development system/water supply system) Umbulan is one of national strategic projects in Indonesia, built using the scheme of Government Cooperation with Business Entities (KPBU) with concession for 25 years. KSB was chosen to support SPAM Umbulan because of its best quality in accordance with required standard of National Strategic Projects (Proyek Strategis Nasional/PSN). We need to ensure all supporting elements on this project are best quality products, reliable, efficient, and in accordance with required standard of National Strategic Projects (PSN). For us, KSB has provided comprehensive solution and it certainly in accordance with required standard of national strategic projects (PSN). Even though there were many challenges in technical aspects as well non-technical, nevertheless, all physical works are scheduled to be finalized by end of May 2020”.

Yan Kuryana Wiradipura, Project Director SPAM Umbulan, PT Meta Adhya Tirta Umbulan



### KSB Indonesia

Head Office, Cibitung. Telp: 021 89983570

Sales & Marketing Office, Jakarta. Telp: 021 80886509

E-mail: ksbsales@ksb.com

Website: ksb.co.id/